

U.S. Fish and Wildlife Service
New York Field Office
November 2005

Karner blue butterfly habitat surveys

We offer the following recommendations for conducting Karner blue butterfly (*Lycaeides melissa samuelis*) habitat surveys. These recommendations are based on our current understanding of Karner blue butterflies and their habitat. Should any suitable habitat be found, coordination with the U.S. Fish and Wildlife Service (Service) and New York State Department of Environmental Conservation (NYSDEC) is necessary to determine whether surveys for the actual butterflies are recommended. Permits are required by the NYSDEC for Karner blue butterfly surveys. Please allow for adequate processing time to ensure that permits are in place prior to the first Karner blue butterfly flight period (normally beginning in late May). Recommendation for conducting Karner blue butterfly surveys and identification photographs of Karner blue butterflies can be obtained from the NYSDEC/Service.

Site Assessments

Site Assessments should be conducted before the first survey to identify which portions of the site should be surveyed for wild lupine (*Lupinus perennis*), nectar plants, and the Karner blue butterfly. These assessments involve conducting a general field survey of the site and broadly mapping excluded areas and potential butterfly survey areas.

While lupine is generally found in more open areas, patches can continue to survive for periods of time in more closed-canopy situations. Therefore, all areas with well-drained, predominantly sandy soils should be surveyed, except for those listed below.

Areas to exclude from future surveys include:

- Wetlands
- Active agricultural lands
- Paved developed areas (buildings, roads, etc.)
- Other non-sandy soil areas
- Areas regularly mowed during the growing season (lawns)
- Areas with >50% canopy cover (if there are no openings/trails cut through those areas)

Habitat may exist directly adjacent to or outside the footprint of the above-listed areas, and should be surveyed for lupine, nectar, and Karner blue butterflies.

Lupine and Nectar Surveys

Surveys for wild lupine may be conducted prior to surveying for Karner blue butterflies (in conjunction with the site assessment) to expedite future Karner blue surveys, or you may choose to survey for both wild lupine and Karner blue butterflies at the same time. An individual who is

knowledgeable in the identification of lupine should conduct the surveys. We provide the following guidance on when to survey for lupine:

- In places where lupine flowers early (sunny areas), survey from late May to mid-June. In places where lupine flowers rarely, or not at all (usually more shaded areas), surveys should be conducted from late May through mid-July.

While lupine is essential for Karner blue butterfly larvae, adult Karner blues rely on a variety of plants as nectar sources, especially during the second flight period as lupine plants senesce. Potential plants will provide nectar to small butterflies and bloom during the first and second flight periods. Please refer to Appendix C of the Final Recovery Plan for the Karner Blue Butterfly (*Lycaeides melissa samuelis*) (Service 2003)* for a list of potential nectar sources.

To adequately assess the site, both wild lupine and nectar areas should be mapped as accurately as possible. In addition, descriptions of the lupine patches (*e.g.*, estimated size and est. number of lupine stems within a patch) will assist with our evaluation of the site. Provide a list of the observed nectar plants and include descriptions on the map (*e.g.*, where vigorous, dense clusters of plants were observed, where nectar plants were scattered throughout, etc.). If there are multiple patches, it may be helpful to create an overall project map and separate data sheets with maps for each individual patch.

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Literature Cited:

U.S. Fish and Wildlife Service. 2003. Final Recovery Plan for the Karner Blue Butterfly (*Lycaeides melissa samuelis*). U.S. Fish and Wildlife Service, Fort Snelling, Minnesota. 273 pp.

* Available at <http://www.fws.gov/northeast/nyfo/es/appendixC.pdf>